federal register

THURSDAY, OCTOBER 24, 1974

WASHINGTON, D.C.

Volume 39 ■ Number 207

PART II

ENVIRONMENTAL PROTECTION AGENCY

■

STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Coal Preparation Plants

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 60]

[FRL 279-2]

STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Coal Preparation Plants

Pursuant to section 111 of the Clean Air Act, as amended, the Administrator proposes herein standards of performance for new and modified coal preparation plants.

On December 23, 1971, the first standards of performance were promulgated. Those were for affected facilities at new fossil fuel-fired steam generators, incinerators, portland cement plants, nitric acid plants, and sulfuric acid plants. Since that time, additional standards have been proposed for other categories of sources (March 8, 1974, 39 FR 9308) and several other publications in the FEDERAL REGISTER have amended the standards.

As prescribed by section 111, proposal of standards for coal preparation plants was preceded by the Administrator's determination that these plants contribute significantly to air pollution which causes or contributes to the endangerment of public health or welfare and by his publication of this determination in this issue of the FEDERAL REGISTER.

Coal preparation plants were selected for the development of standards based primarily on the expectation of increased demand for coal and the beneficial impact which would result from the application of best technology for air pollution control. Coal preparation plants were recommended for consideration for standards in the "Report of the Committee on Public Works," U.S. Senate, September 17, 1970, and named as a major source of air pollution in 40 CFR Part 52, "Prevention of Significant Air Quality Deterioration," as proposed in the FEDERAL REGISTER, August 27, 1974 (39 FR 31000). The recent emphasis on coal as the long-term source of fossil fuel energy will lend additional impetus to the growth of the coal industry. This may be particularly true of the lower rank lignite and sub-bituminous coals which have heretofore been uneconomical to exploit.

Coal preparation plants are major sources of particulate matter emissions which can have an adverse effect on health. The bases for the proposed standards include the results of emission measurements by the industry, the Environmental Protection Agency and local agencies; emission data derived from available technical literature; information gathered during visits to pollution control agencies and plants in the United States; and comments and suggestions solicited from experts. The proposed standards reflect the degree of emission limitation achievable through the application of the best system of emission reduction which, taking into account the cost of achieving such reduction, the Administrator has determined to have been adequately demonstrated.

The document "Background Information for Standards of Performance: Coal Preparation Plants" which presents information regarding the factors considered in arriving at the proposed standards, including costs and summaries of test data, is available free of charge from the Emission Standards and Engineering Division, Environmental Protection Agency, Research Triangle Park, North Carolina 27711, attention: Mr. Don R. Goodwin. It is emphasized that the costs are considered reasonable for new and modified sources. It is not implied that the same costs apply to the retrofitting of existing sources. Retrofitting to achieve the proposed emission limitations would in some cases cost much more.

It is important to note that the applicability of the standard is intentionally broad. Although the emission measurement data on which the standard is founded was obtained from coal preparation plants processing bituminous coal, the standard is also applicable for all other types of coal. Furthermore, the definition provided for coal preparation plants does not restrict applicability to plants which process coal directly from a coal mine. There are no known thermal coal dryers other than "mine-mouth," but plants which break, crush, or screen coal are relatively common. (For example, such preparation plants will be constructed at new coal-fired power plants and new coke ovens.) Since there is no basic difference in the mechanical processes of breaking, crushing, and screening coal whether they occur at the mine or at some other location, the applicability of the standard was expanded to encompass those processes regardless of their location. Future coal preparation plants at all such facilities must comply with the proposed opacity standard.

Existing installations which had emission rates from the thermal dryer below that of the proposed standard typically controlled emissions with a venturi scrubber in series with a cyclonic separator (which removed entrained water). The scrubber's operating conditions ranged from 25 to 35 inches of water head-loss. It is anticipated that such equipment will continue to be used.

Breaking, crushing, and screening operations may be conducted on coal which may be wet or dry. Those plants which break, crush, and screen wet coal used lower efficiency (3–5 inches of water head-loss) scrubbers. Plants which similarly process dry coal often use fabric filters. Both can achieve the proposed limitation which prohibits opacities of 20 percent or greater.

The standards will require the operator to provide, as part of the new plant design, suitable means (such as taller stacks or internal straightening vanes) to permit measurement of the emissions by EPA's reference methods. The authority for requiring such modifications stems from section 114(a)(1)(c) of the Clean Air Act.

The standards also require the operator to daily sample and analyze for moisture content the product coal from thermal dryers. This information is an indication of the potential dusting problem associated with conveying, storing, and transfering dried coal. Fine coal dried to low surface moisture levels is generally recognized to have extreme dusting properties. Facilities which dry coal to low moisture levels will have to install adequate control equipment in order to achieve applicable opacity standards. For facilities that have not installed necessary control equipment, but change their operating practices to dry coal to low levels, product coal moisture information can be used as evidence of violation of best operating and maintenance requirements. Facilities which elect to routinely dry coal to low moisture levels may demonstrate during the performance test the effectiveness of their control equipment to show that these operating practices are consistent with applicable emission regulations. These data gathering and recordkeeping requirements do not represent an additional burden for most thermal drying facilities. Such analyses are routinely performed daily as part of the source owner's quality assurance program in order to determine that customer specifications are met and in order to determine the customer's cost per ton (dried coal is often sold on a cents per million Btu basis).

In accordance with section 117(f) of the Act, publication of these proposed amendments to 40 CFR 60 was preceded by consultation with appropriate advisory committees, independent experts, and Federal departments and agencies. The possible adverse environmental impact resulting from the proposed standards has been considered and determined to be negligible as discussed in the background information document. The proper management of solid wastes resulting from air pollution control systems should be practiced. Air pollution control technologies generate many different amounts and types of solid wastes and liquid concentrates through the removal of pollutants from air emissions. These substances vary greatly in their chemical and physical composition. A variety of techniques may be employed to dispose of these substances. When thermal processing is the choice for disposal, provisions must be made to ensure minimal reentry of the pollutants into the atmosphere in accordance with State and local regulations. Consideration should also be given to recovery of materials of value in the wastes. When land disposal is selected, practices similar to proper sanitary landfill technology may be followed. The principles set forth in EPA's Land Disposal of Solid Waste Guidelines (40 CFR Part 241) may be used as guidance for acceptable land disposal techniques.

Coal preparation plants are inherently one of the Nation's major sources of solid waste pollution. This refuse consists of dirt and other contaminants that are mined with the coal and separated from it by the preparation plant. The wet preparation process uses copious quantities of water to accomplish the separation. The additional water requirements and solid waste pollution attributable to

control of air pollution are minor when compared to the waste by-products of the basic process.

Based on the expected annual growth in new and modified thermal dryer facilities, the incremental increase in total energy consumption (primarily attributable to fan power requirements for air pollution control equipment) in excess of that required to achieve State standards is projected to be 6 million kilowatt hours per year. This energy requirement is a small fraction of the total power consumed annually by coal preparation plants and contiguous mining operations.

The economic impact of the standard to control thermal dryers above that incurred under existing State standards will be about a 3 percent increase in capital investment and an incremental cost of $0.02 per ton. Neither figure would seriously affect any decision to construct a new coal preparation plant. For air tables, the fabric filter now frequently used to achieve the State standards will also provide compliance with the standard of performance, so the economic impact is minimal.

Standards sometimes result in a more severe economic impact on smaller than on larger firms. This is partially the result of economies of scale that generally favor larger equipment installations. In the case of coal preparations plants, however, a complete new plant requires an investment of about $10 million. Any company large enough to afford the capital outlay would find the additional investment required for Federal air pollution control a very small portion of the total cost.

The proper use of and test methods for opacity standards are presently being reconsidered by the Agency in response to remands from the United States Court of Appeals for the District of Columbia Circuit in Portland Cement Association v. Ruckelshaus, 486 F. 2d 375 (1973), and Essex Chemical Corp. v. Ruckelshaus, 486 F. 2d 427 (1973). The response to the remand in the Portland Cement case should be completed shortly. At that time, the Agency will promulgate or propose such revisions of its opacity standards or test methods as it deems necessary or desirable. In accordance with section 117(f) of the Act, publication of these proposed amendments to 40 CFR was preceded by consultation with appropriate advisory committees, independent experts and Federal departments and agencies. In the course of these consultations, the Department of Commerce has questioned the establishment of visible emissions (opacity) standards. The Department of Commerce believes that opacity limits have not been satisfactorily correlated to give rates of particulate concentration emissions or mass emissions to establish opacity as a standard. Further, Commerce has questioned whether such standards would be subject to accurate visual determination. Commerce, therefore, recommended that opacity limits not be adopted as a standard where a particulate concentration or mass emission standard is established. Commerce believes such opacity limits should only be used in those cases to create a rebuttable presumption of a violation of the particulate or mass emissions standards. Commerce believes such presumption could, for example, be rebutted by providing a continuous opacity monitor record showing a visual opacity observation to be in error; and/or by a showing that the particulate concentration or mass emissions standards was not exceeded at the time the opacity limit was exceeded. Commerce believes such a showing could be made by a performance test. If the owner or operator wished to use such test to show that he was not in violation of the mass or concentration standard at the time the opacity limit was exceeded, he must be able to establish the critical plant and control operating parameters that existed at the time of the observed opacity violation by a system of continuous monitoring and recording of such data so that such conditions can be duplicated at the time of the test.

EPA does not support the approach suggested by the Department of Commerce and is proposing opacity standards in the regulation. EPA believes that the opacity concept is both technically sound and the most practical and inexpensive way to insure that control equipment is adequately maintained and operated between performance tests. A performance test conducted after a source was observed to be in violation of the opacity standard would not in EPA's opinion necessarily resolve the question whether, at the time of the observed violation, the source was meeting the concentration standard. During the period between the observed violation of the opacity standard and the time of the performance test, the owner or operator in some cases could take remedial action to bring a non-complying source into compliance. EPA's opinion is that the only way to resolve this problem would be through use of a continuous monitoring system or through performance tests conducted at such frequent intervals as to yield similar results. EPA believes the approach suggested by the Department of Commerce is not a realistic or practical alternative in the absence of an appropriate continuous monitoring system. However at the request of the Department of Commerce, EPA is submitting for public comment that agency's recommendation and will consider any comments of State officials, industrial representatives, environmentalists, and the general public on this or any other alternative approach.

Interested persons may participate in this rulemaking by submitting written comments (in triplicate) to the Emission Standards and Engineering Division, Environmental Protection Agency, Research Triangle Park, North Carolina 27711, attention: Mr. Don R. Goodwin. The Administrator will welcome comments on all aspects of the proposed regulations, including economic and technological issues. All comments received on or before December 9, 1974, will be considered. Comments received will be available for public inspection at the Office of Public Affairs, 401 M Street, SW., Washington, D.C. 20460.

(Secs. 111 and 114 of the Clean Air Act, as amended (42 U.S.C. 1857c–6 and 9))

Dated: October 11, 1974.

JOHN QUARLES,
Acting Administrator.

It is proposed to amend Part 60 of Chapter I, Title 40 of the Code of Federal Regulations by adding new subpart Y as follows:

Subpart Y—Standards of Performance for Coal Preparation Plants

Sec.
60.250 Applicability and designation of affected facility.
60.251 Definitions.
60.252 Standards of particulate matter.
60.253 Monitoring of operations.
60.254 Test methods and procedures.

Subpart Y—Standards of Performance for Coal Preparation Plants

§ 60.250 Applicability and designation of affected facility.

The provisions of this subpart are applicable to the following affected facilities in coal preparation plants: thermal dryers; pneumatic coal-cleaning equipment (air tables); coal processing and conveying equipment (including breakers and crushers); screening (classifying) equipment; coal storage and coal transfer points; and coal loading facilities.

§ 60.251 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and in subpart A of this part.

(a) "Coal preparation plant" means a facility which prepares coal by any or all of the following processes: breaking, crushing, screening, cleaning (both wet and dry methods), and drying.

(b) "Coal" means anthracite, bituminous, subbituminous, lignite, or any other solid fossil fuel normally considered coal as classified by A.S.T.M. Designation D–388–66.

(c) "Cyclonic flow" means a spiraling movement of exhaust gases within a duct or stack.

(d) "Thermal dryer" means any facility in which the moisture content of coal is reduced by contact with a heated gas stream.

(e) "Pneumatic coal-cleaning equipment" means any facility which classifies coal by size or separates coal from refuse by application of air stream(s) to the coal.

(f) "Coal processing and conveying equipment" means any machinery used to reduce the size of coal or to separate coal from refuse, and the equipment used to convey coal to or remove coal and refuse from the machinery. This includes, but is not limited to, breakers, crushers, screens, and conveyor belts.

(g) "Coal storage system" means any facility used to store coal which is either unprocessed ("run-of-the-mine") or processed (classified or dried).

(h) "Transfer and loading system" means any facility used to load processed coal for shipment.

(i) "Surface moisture" is defined as the difference between total moisture as determined by ASTM D271–71 and equilibrium moisture by ASTM D1412–61 (1968).

§ 60.252 Standard for particulate matter.

(a) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any thermal dryer gases which:

(1) Contain particulate matter in excess of 0.070 g/dscm (0.031 gr/dscf).

(2) Exhibit 30 percent opacity or greater.

(b) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any pneumatic coal cleaning equipment gases which:

(1) Contain particulate matter in excess of 0.040 g/dscm (0.018 gr/dscf).

(2) Exhibit 20 percent opacity or greater.

(c) On and after the date on which the performance test required to be conducted by § 60.8 is completed, no owner or operator subject to the provisions of this subpart shall cause to be discharged into the atmosphere from any coal processing and conveying equipment, coal storage systems, or coal transfer and loading systems gases which exhibit 20 percent opacity or greater.

§ 60.253 Monitoring of operations.

(a) Continuous monitoring systems shall be installed, calibrated, maintained, and operated by the source owner or opeator of any thermal dryer as follows:

(1) A continuous monitoring system for the measurement of the pressure loss through the control device of the gas stream on a continuous basis.

(2) A continuous monitoring system for the measurement of the temperature of the gas stream at the exit of the thermal dryer on a continuous basis.

(b) The source owner or operator shall sample, analyze, and record daily, the surface moisture content of product coal from the thermal dryer. The sample shall be selected, prepared, and analyzed in accordance with ASTM procedures D2234–72 for mechanical sampling, D2013–72 for sample preparation, and D271–70 for sample analysis.

§ 60.254 Test methods and procedures.

(a) The reference methods in Appendix A of this part, except as provided in § 60.8(b), shall be used to determine compliance with the standards prescribed in § 60.252 as follows:

(1) Method 5 for the concentration of particulate matter and associated moisture content,

(2) Method 1 for sample and velocity traverses,

(3) Method 2 for velocity and volumetric flow rate, and

(4) Method 3 for gas analysis.

(b) For Method 5, the sampling time for each run shall be at least 60 minutes and the minimum sample volume shall be 0.85 dscm (30 dscf) except that shorter sampling times or smaller volumes, when necessitated by process variables or other factors, may be approved by the Administrator. Sampling shall not start until 30 minutes after startup and shall terminate before shutdown procedures commence. The owner or operator of the affected facility shall eliminate cyclonic flow during performance tests in a manner acceptable to the Administrator.

(c) For the purpose of this subpart, § 60.12 does not prohibit addition of diluent gases to the inlet of any particulate matter control device.

(d) The air pollution control system for thermal dryers or pneumatic coal-cleaning equipment shall be constructed so that particulate emissions can be accurately determined by applicable test methods and procedures.

[FR Doc.74–24356 Filed 10–23–74;8:45 am]